



VINH UNIVERSITY
TRƯỜNG ĐẠI HỌC VINH



COLLEGE OF ECONOMICS
TRƯỜNG KINH TẾ

PROCEEDINGS OF THE 2ND COEC INTERNATIONAL SCIENTIFIC CONFERENCE:
**SUSTAINABLE ECONOMIC DEVELOPMENT OF VIETNAM
IN THE NEW CONTEXT**

● KỶ YẾU HỘI THẢO KHOA HỌC QUỐC TẾ COEC LẦN THỨ 2:

**PHÁT TRIỂN BỀN VỮNG
KINH TẾ VIỆT NAM
TRONG BỐI CẢNH MỚI**



NHÀ XUẤT BẢN TÀI CHÍNH



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January 12th, 2025, Vinh, Vietnam

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DIGITAL TRANSFORMATION AT VIETNAM AIRLINES CORPORATION: CURRENT STATUS AND SOLUTIONS

Dr. Nguyen Thi Hai Yen¹, Tran Huy Thang²

Abstract: Digital transformation plays an important role in the development of the aviation industry in general and Vietnam Airlines in particular. The article will analyze digital transformation at Vietnam Airlines Corporation, pointing out achievements, limitations and causes of limitations in the digital transformation process. On that basis, propose some solutions to promote the digital transformation process at Vietnam Airlines Corporation in the coming time.

Keywords: Digital transformation, Vietnam Airlines

JEL code:

1. Introduction

Digital transformation has become an inevitable trend of the global aviation industry. Not only does it help aviation businesses solve market problems, digital transformation also creates a foundation for sustainable development in the future. Accordingly, Vietnam Airlines clearly defines the goal of "Making Vietnam Airlines become a digital airline by 2025, maintaining its pioneering role in leading Vietnam's air transport industry, and at the same time being in the leading group in transformation." numbers of the ASEAN aviation industry".

Current status of digital transformation at Vietnam Airlines on the contents of building and promulgating digital transformation strategies, programs and plans; Propagate and raise awareness about digital transformation; Digital data and digital technology; Building a digital culture has shown that Vietnam Airlines is gradually orienting the development of digital transformation with a long-term vision, to not only improve internal operations but also bring customers the best experiences. The results achieved in the digital transformation process have put Vietnam Airlines in the group of airlines with advanced digital technology. Vietnam Airlines continues to promote management innovation, effectively exploit data and constantly apply technology to maintain its pioneering position in the regional aviation industry.

2. Current status of digital transformation at Vietnam Airlines Corporation

2.1. Develop and promulgate digital transformation strategies, programs and plans

Vietnam Airlines determines that digital transformation is inevitable if it wants to have breakthroughs in development and not be left behind in the 4.0 Industrial Revolution, especially after the crisis period brought about by the Covid-19 pandemic. Many digital transformation strategies, programs and plans in Vietnam Airlines' Digital Transformation Strategy have been issued and implemented:

¹ Corresponding Author; haiyenkk@gmail.com

² College of Economics, Vinh University, Vietnam

Table 2.1. Vietnam Airlines' digital transformation strategies

No	Job content	Chair
1	Customer Experience Strategy	TTS, DVHK
2	Digital Brand Strategy	TT
3	Digital Marketing Strategy	TTS, TT
4	Ecosystem strategy	TTS, KHPT
5	Digital transformation strategy	CDS
6	Risk management strategy	CDS, TCKT
7	Data strategy	CDS

Source: Digital transformation center - Vietnam Airlines

Vietnam Airlines has developed, issued and implemented 7 Strategies, of which the Customer Experience Strategy is assigned to the digital marketing (TTS) and aviation services (DVHK) departments to preside over; Digital Marketing Strategy is chaired by the Digital Marketing and Communications Department; The ecosystem strategy is chaired by the digital marketing department and the Planning and Development department (KHPT); Data Strategy (Data Management Framework) and Digital Transformation Strategy are chaired by the Digital Transformation Center; The risk management strategy is co-chaired by the Digital Transformation Center and the Finance and Accounting Department. And now the Digital Transformation Strategy has been issued.

After the Digital Transformation Strategy was issued, agencies and units under Vietnam Airlines proactively implemented work related to digital transformation, along with 12 key programs and 7 digital platforms. built and deployed.

Table 2.2. Vietnam Airlines' digital platforms

No	Job content	Chair
1	Customer data platform	TTS
2	Omnichannel	TTS
3	The Axis platform integrates applications	CDS
4	Platform for collecting, processing, and analyzing big data	CDS, CNTT
5	VNA E2E Partner Management Platform	TCKT
6	E-learning knowledge management and sharing platform	TCNL
7	Customer feedback collection platform	Ban Tiếp thị số

Source: Digital transformation center - Vietnam Airlines

In addition, Vietnam Airlines has also developed digital applications and digital technology applications with 5 application contents in the commercial sector, 14 applications in the general management sector and 4 applications in the commercial sector. flight operations.

2.2. Propagate and raise awareness about digital transformation

Vietnam Airlines clearly identifies digital transformation as one of the key tasks that must be implemented very drastically. Digital transformation is the basis for improving management efficiency, thereby increasing revenue, reducing costs, creating profits and sustainable development. Digital transformation is not only about technology, but the human factor is the prerequisite. Therefore, the digital transformation process requires a change in awareness and working style of employees throughout the corporation. This is an inevitable process in the 21st century and requires leadership and direction from the

Corporation's Party Committee for Vietnam Airlines to ensure success.

Vietnam Airlines' initial success came from many factors, but the consensus of all officers and employees played an important role. In particular, the Party Committee and leadership of Vietnam Airlines play an important role in promoting digital transformation because they have created a favorable environment and international integration, reducing limiting factors and complex processes., especially for digital products.

Vietnam Airlines determines that communication and communication about digital transformation is very important in promoting digital transformation. Employees need to understand and agree in making the transition. This requires continuity and efficiency in communicating information. In particular, Vietnam Airlines has succeeded in promoting youth on the digital transformation journey. And the Youth Union is the place where Vietnam Airlines' youth and enthusiasm converge, promoting the spirit of "dare to think, dare to do" with many contributions to innovation, digital initiatives... and ensuring 100% youth union membership. understanding of digital culture.

In addition, Vietnam Airlines also determines that each officer and employee actively participating in the digital transformation process is an important factor to ensure that businesses can apply digital technology effectively and provide The best service for customers at each stage and each location. Therefore, on the digital transformation journey, each officer and employee of Vietnam Airlines will be a "Digital Lotus" - symbolizing solidarity, creativity and the spirit of drastic change in thinking and perception. Each officer and employee of Vietnam Airlines needs to actively participate in courses and training to improve the knowledge and technical skills necessary to use digital technology. Officials and employees also regularly propose improvements related to digital transformation to improve work efficiency and effectiveness. Especially in order to increase cooperation both internally and externally, Vietnam Airlines officials and employees have proactively exchanged and shared experiences during the work implementation process.

Table 2.3: Comment on Vietnam Airlines' vision and digital transformation strategy

Unit: %

Target	Evaluation results according to levels (%)				
	Totally agree	Agree	No comments	Disagree	Completely disagree
1. VNA has a realistic digital transformation vision, which can become specific projects and initiatives	33,31%	44,01%	19,8%	2,3%	0,58%
2. VNA has planned a clear strategy and action plan to achieve that vision	33,46%	42,64%	20,52%	2,86%	0,52%
3. Digital transformation vision and strategy are being well implemented throughout the organization.	31,88%	40,05%	23,36%	4,21%	0,50%

Source: Survey data of Vietnam Airlines

The results of a survey of employees at VNA about VNA's vision and digital transformation strategy show that VNA's employees have high confidence and determination to digitally transform with 77.32% agreeing with VNA. have a realistic digital transformation vision, which can become specific projects and initiatives; 76.10% agree that VNA has planned a clear strategy and action plan to achieve that vision; 71.93% think that communicating the Vision and Digital Transformation Strategy are being implemented well throughout the organization.

2.3. *Digital data and digital technology*

Vietnam Airlines Corporation always focuses on promoting research and development activities in digital technology and digital data. In particular, Vietnam Airlines' research center has the role of advising and assisting the Board of Directors and the General Director. The center's activities also research and propose application solutions in the field of technology and management in the aviation field. At the same time, providing services for the company's production and business activities. Currently, Vietnam Airlines' research center is operating with two main specialized departments: the Technology and Management Solutions Department and the Science and Technology Services Department with a total of 20 employees.

In the first phase, Vietnam Airlines focuses on upgrading technical infrastructure, e-commerce website, and mobile app to speed up processing operations and increase convenience when purchasing tickets., increasing online payment methods to better meet the needs of passengers to buy air tickets. The addition of many ticket cancellation and change utilities, pre-flight and post-landing announcements gives customers many interesting experiences.

Marketing activities in the digital environment are promoted by Vietnam Airlines through the application of tools to measure the number of visitors to websites and mobile applications, and analyze data to understand customers' wants and needs. From there, draw portraits and market directly to them through digital tools. In addition, applying customer management programs to manage and direct marketing through sending Email, Web push, App push, SMS, Zalo messages according to forecasts of customer desires and needs. them at different times. The company has also established criteria such as: 85% of customers are satisfied across all channels and touch points, 80% of customer information is collected and analyzed...

In parallel with diversifying programs on online sales channels, Vietnam Airlines continuously expands distribution channels, shifting from mainly focusing on distribution channels through box offices and airline ticket sales agents to the form of distribution channels. Online ticket sales on e-commerce platforms and e-commerce wallets of domestic and international partners to increase accessibility as well as add more methods for customers to buy tickets.

With strong investment in technical infrastructure, Vietnam Airlines has promoted online check-in methods via websites, mobile applications and increased self-check-in kiosk check-in counters at many airports in the country. and abroad.

Since 2019, Vietnam Airlines has launched a new mobile application version with many modern and easy-to-use features, helping passengers quickly search for flights, look up itineraries, and book tickets online., promptly update promotional programs,...

In addition, Vietnam Airlines also expands many payment methods on new

technology platforms such as: payment by QR code through domestic payment gateway Napas (Momo, Moca applications) and domestic payment gateway VNPay; At the same time, adding SOFORT Banking online payment service in German, Swiss and Austrian markets... to create maximum convenience for passengers.

To solve the operational and management problem of Vietnam Airlines, iERP used Business Intelligence (BI) technology from Oracle - the world's leading provider of ERP software and solutions for businesses. The integrated system for flight operations and operations (iOCC) is a system for the Operations Management Board to manage flights with information collected from other departments such as the Technical Department and the Operations Management Board., Service and Trade - Finance sector. iOCC provides important information to supervisory staff such as weather information, aircraft breakdown details, load parameters, flight schedules, revenue and costs for timely handling.

The requirements of the Integrated Flight Operations Control System (iOCC) Project - Vietnam Airlines set for the iERP team are extremely complex, strict and meticulous, including display requirements of the system, system warning requirements, system reporting and data exploitation requirements, and plan effectiveness requirements.

Previously, managers and flight operations supervisors had to observe and monitor information on about 20 computer screens, but now information is aggregated on only 4 screens. Furthermore, information and changes are continuously updated. The iOCC system processes data centrally and immediately to help managers and flight operations supervisors manage flight schedules, failures and other aircraft information quickly to take appropriate measures. timely handling. Besides, managers can track revenue and cost indicators, compare and analyze them between weeks, months, quarters, etc. to understand the "health" of the business. business as well as have timely plans to increasingly optimize profits for Vietnam Airlines.

To meet the needs of the times, Vietnam Airlines always focuses on improving online care services through the establishment of a 24/7 customer care center (call center), care via automatic messages. (chatbot) and currently the airline has also deployed a "Virtual Assistant" service that applies machine learning and artificial intelligence (AI) to replace employees communicating with passengers (callbot). The company's goal is to have 70% of interactions and responses automated. With online applications and utilities, customers can experience all stages of the ticket purchasing process from booking, ticket issuance, baggage purchase, online check-in and changes to tickets in the digital environment.

2.4. *Building digital culture*

The process of building Vietnam Airlines Digital Culture is the journey of the Digital Lotus with continuous and strong transformation. The center of the lotus is the customer, symbolizing customer-centricity. The two small wings near the center represent Safety and Data-Based Decisions - these are two prerequisites for VNA's success. The next two wings represent Innovation and Adaptive Flexibility - the necessary capabilities for digital transformation at VNA. The two outermost wings are Expanding Cooperation and Digital Thinking - new ways of working for VNA people. On that development journey, beliefs, attitudes and standard behaviors will be continuously propagated and enforced by each VNAer.

Clearly define the goal of "Making VNA become a digital airline by 2025,

maintaining its pioneering role in leading Vietnam's air transport industry, and at the same time being in the leading group in digital transformation of the ASEAN aviation industry." ", on August 20, 2021, the Corporation's Board of Directors decided to establish a Digital Transformation Steering Committee with the function of advising in directing the implementation of digital transformation strategies, plans and programs., promulgate policies and procedures mechanisms and policies to create a favorable environment to promote digital transformation, meeting VNA's digital transformation requirements.

In February 2022, the Digital Transformation section was officially launched on Spirit's internal communications page. The articles in the section are carefully invested, diverse in content and form, revolving around the topics: Digital Transformation work in the world, domestically and at VNA; what VNA has been doing and will do to realize the goal of digital transformation; Cooperation activities in the field of digital transformation... Not only is it an information channel directly related to digital transformation activities, the launch of a section on the Spirit page contributes significantly to forming thinking and awareness. about VNA's digital culture.

“Customer experience” is one of the 5 elements of digital culture, a pedestal that supports other elements, and a source to nurture the “Digital Lotus” - Vietnam Airlines digital culture is “lush” and develop. With the motto "Digital transformation starts with digital culture", in addition to applying technology to all aspects of production and business, Vietnam Airlines has been paying great attention to building "Digital Culture" to realize reality. transforming the vision of becoming a digital airline by 2025. Vietnam Airlines' "digital culture" has gradually been shaped in each officer and employee and will be strongly spread, thereby creating total strength, creating the premise for Vietnam Airlines to transform digitally labour.

3. Results and discussion

3.1. Results

In the past 5 years, with its best efforts, Vietnam Airlines has made strong changes in digital transformation from a score of 76 (in the group of airlines with limitations in digital technology) in 2017 to a score of 76 (in the group of airlines with limitations in digital technology) in 2017. score 113 in 2021 (belonging to the group of airlines transitioning to digital technology) despite the context that the aviation industry is facing many difficulties in the years heavily affected by the Covid 19 epidemic. Year 2023 has reached the group of Airlines with advanced digital technology. This assessment is based on the digital airline rating scale - DAS (Digital Airlines Score) to evaluate the level of digital transformation of an airline with levels from the group "Airlines that still have limited technology". digital technology" to the group "Airlines with advanced digital technology" by construction.

In the period 2020 - 2023, Vietnam Airlines has increased the proportion of its ticket sales through online channels; Improve DAS score to 120 points or more, belonging to the group of airlines with advanced digital technology; Join the ecosystem of e-commerce platforms and wallets in Vietnam; Connect to metadata search platforms (Metasearch); Increase sales and diversify complementary services; Personalize sales and service processes and enhance customer experience across all touch points.

Currently, with a relatively solid digital technology foundation, Vietnam Airlines has set specific goals for each stage to carry out the digital transformation task of this

enterprise through very specific and specific goals. has gradually achieved the set goals.

3.2. Limitations and causes

Vietnam's aviation industry faces many challenges when starting its digital transformation journey.

First, the number of aviation professionals knowledgeable about how to handle advanced digital technologies is not too large. They may not be knowledgeable about the intricacies of IoT, AI and data analytics, so comprehensive training and upskilling programs are needed to ensure smooth knowledge transfer. shall.

Second, the constant change in customer needs poses a significant challenge. Passenger expectations are constantly changing, demanding a more personalized travel experience. To meet these changing requirements, a more proactive approach to the digitalization process is needed, ensuring rapid adaptation. The aviation industry itself is also lacking initiative in the digital transformation process.

Third, there seems to be resistance within industry organizations to move away from traditional methods and embrace innovative digital solutions. To overcome this barrier, businesses need an effective change management strategy and foster a culture of innovation.

In addition, budget constraints can hinder digital transformation progress. Investing in digital infrastructure, technology and cyber security measures requires significant financial resources. Having to balance this large investment with other operating costs can be a financial challenge airlines face.

4. Some solutions to promote digital transformation at Vietnam Airlines

First, regularly review and promptly amend regulations that are no longer appropriate, creating favorable conditions for the digital transformation process. Maximize the strengths of infrastructure and experience in implementing IT systems, data advantages, partner network and brand reputation.

Second, unleash and maximize all resources, have appropriate mechanisms and policies to mobilize huge resources during the digital transformation process.

Third, reform and build a lean, effective and efficient apparatus, cutting down unnecessary intermediaries. Promote decentralization and decentralization of power associated with strengthening inspection and supervision and clearly defining the responsibilities of each individual employee. Complete the inspection and supervision mechanism, ensure consistency in all activities and promote the initiative and creativity of each employee.

Fourth, promoting digital transformation associated with ensuring security and safety is an objective necessity for Vietnam Airlines to make a breakthrough in the coming time. Focus on building comprehensive digitalization in all activities. Synchronously connecting databases creates a foundation for streamlining the apparatus and reforming administrative procedures.

Fifth, Changing the thinking and awareness of each employee in Vietnam Airlines is a key factor to bring success. Each individual in VNA needs to be trained to understand the importance of digital transformation, understand VNA's vision and mission of becoming a digital airline, from there, in every action, the their work, every employee is aware of the fact that "Digital transformation needs to start with the smallest tasks."

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